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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/944,071

09/04/2001

Masanobu Asaoka

35.C15758

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03/25/2004

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EXAMINER

SCHWARTZ, PAMELA R

ART UNIT

PAPER NUMBER

1774

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/944,071	<b>Applicant(s)</b> ASAOKA ET AL.	
	<b>Examiner</b> Pamela R. Schwartz	<b>Art Unit</b> 1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-22 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/22+7/3+7/21/2002</u> . | 6) <input type="checkbox"/> Other: ____  |

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1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-10, drawn to a recording medium, classified in class 428, subclass 32.1.
  - II. Claims 11 and 12, drawn to an image forming method, classified in class 347, subclass 105.
  - III. Claims 13-22, drawn to a manufacturing method, classified in class 427, subclass 152.

The inventions are distinct, each from the other because of the following reasons:

Inventions of Group III and of Group I are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case the product can be made by a materially different method such as by replacing the pressing step with the step of calendaring the medium with a heated roller.

Inventions of Group I and of Group II are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case the product can be used in a materially different method such as a method of writing with a pencil or crayon.

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Inventions of Group II and of Group III are unrelated since the article is patentably distinct from both the method of making and the method of using. It can be both manufactured by a different method and used in a different method as set forth above.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper.

During a telephone conversation with Ms. Dudek on March 15, 2004 a provisional election was made with traverse to prosecute the invention of Group III, claims 13-22. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-12 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

2. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano et al. (6,511,736). The reference discloses an ink jet recording material having excellent gloss and high color density (see the abstract). The material comprises a substrate and a multi-layered ink fixing layer, each of which comprises pigment and binder. The pigment may be alumina (see col. 2, line 36 to 51). The outermost ink

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fixing layer is formed by a cast-coating method (see col. 2, lines 50-51). The reference does not measure gloss at 20°, but rather at 75° (see col. 3, lines 60-63). The reference discloses the use of a paper support of wood pulp (see col. 4, lines 64-65). The support preferably has a basis weight of 20 to 400 g/m<sup>2</sup> and a sizing degree at of 1 to 200 seconds at a basis weight of 100 g/m<sup>2</sup> (see col. 5, lines 43 to 55). The medium may have a undercoat of pigment and binder (see col. 6, lines 15-32). Included as pigments are silica, zinc oxide, aluminum oxide, and calcium carbonate. The ink fixing layer contains pigment in the form of secondary particles which have an average particle size of 1 µm or less, most preferably 20 to 100 nm (see col. 9, lines 39-47, 52-56, and 63-67). The pigment is present in an amount of 50 wt% or more (see col. 11, lines 11-22) and the binder is present at a ratio of 1 to 200 parts by weight per 100 parts by weight of the pigment (col. 12, lines 39-46). The cast-coated layer is formed using a specular casting drum. The coating composition may be coated and dried, then rewetted with water and pressed onto the heated specular surface of the drum and dried (see col. 15, lines 30-42).

The reference does not disclose specular gloss in terms of 20°, however, it measures gloss in terms of 75°, has clearly identified gloss as a desired property that can be measured and should be achieved, and identifies the re-wet caste method to achieve gloss on the outer layer. Based upon this disclosure, it would have been obvious to one of ordinary skill in the art to control the process in order to achieve the desired level of gloss.

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Finally, the reference does not disclose the specific surface area of the pigment. This is a well-known property of pigments and is used as a measure of the porosity and ability to absorb ink, a critical property in the field of ink jet recording. Therefore, it would have been obvious to one of ordinary skill in this art to control the conventional property of specific surface area of the pigment in the ink receiving layer in order to achieve desired ink absorption and ink drying speed for the medium.

3. Claims 13 and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano et al. (6,511,736) as applied to claim 13 above, and further in view of either of Hosoi et al. (6,200,670) or Ikezawa et al. (5,759,673). Ikezawa et al. teach an ink jet recording sheet having a fibrous substrate and an undercoat layer which may contain an inorganic pigment such as calcium carbonate, zinc oxide, alumina, silica or barium sulfate (see col. 3, lines 12-18, col. 4, lines 50-58, col. 5, lines 5-15. A white pigment is presumably used to whiten the overall appearance of the medium. Hosoi et al. teach an ink receiving medium having a paper substrate and a barium sulfate containing underlayer (see col. 5, lines 42-59 and col. 6, lines 19-33). The barium sulfate is used for its ink solvent absorbency and to provide smoothness to the medium. Based upon these teachings in the prior art, it would have been obvious to one of ordinary skill in the art to include barium sulfate in the underlayer or intermediate layer or the primary reference in order to whiten the medium, increase smoothness or increase ink absorbency in the layer. It would have been obvious to include barium sulfate in lieu of other white inorganic pigments or in addition to other equivalent pigments for these purposes.

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4. Claims 13 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Asano et al. (6,511,736) as applied to claim 13 above, and further in view of Tomizawa et al. (5,985,425). The reference teaches an ink jet recording medium including a matting layer on the side opposite the recording layer. The matting layer contains inorganic material which may be alumina for purposes of curl prevention and pen-writing adaptability (see col. 6, line 37 to col. 7, line 2). Therefore, it would have been obvious to one of ordinary skill in the art to include such a back layer on the medium of the primary reference for the purpose of curl prevention or pen-writing adaptability as taught by the secondary reference.

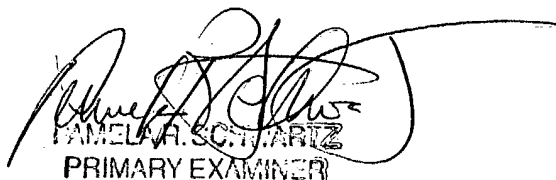
5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela Schwartz whose telephone number is (571) 272-1528.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly, can be reached on (571) 272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PRSchwartz  
March 21, 2004



PAMELA A. SCHWARTZ  
PRIMARY EXAMINER